

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

SONRAI MEMORY LIMITED,

Plaintiff,

v.

ORACLE CORP.,

Defendant.

Civil Action No.: 6:21-cv-1023-ADA

**JURY TRIAL DEMANDED**

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SONRAI MEMORY LIMITED,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No.: 6:21-cv-1024-ADA

**JURY TRIAL DEMANDED**

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**GOOGLE'S AND ORACLE'S OPENING CLAIM CONSTRUCTION BRIEF**

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**TABLE OF EXHIBITS**

Exhibit No.	Description
1	US Patent 8,193,792
2	Declaration of Dr. Alyssa Apsel (attached to Google's brief)
3	October 13, 2011 Office Action
4	US Pub. No. 2008/0238378 (Uan-Zo-li et al.)
5	January 12, 2012 Applicant Response
6	June 9, 2009 Patent Application
7	<i>Oxford Dict. of Computing</i> (2008), 6th Ed.
8	<i>Dictionary of Computer Science Engineering and Technology</i> , 2001
9	<i>Chambers Dictionary of Science and Technology</i> , 2007
10	<i>Concise Dictionary of Science &amp; Computers</i> , 2004
11	<i>Modern Dictionary of Electronics</i> , (1999), Seventh Ed.
12	<i>McGraw-Hill Electronics Dictionary</i> , (1997), Sixth Ed.
13	<i>Authoritative Dictionary of IEEE Standard Terms</i> (2000)
14	<i>Webster's II New College Dictionary</i> (2001)
15	<i>In the Matter of Certain Laptops, Desktops, Servers, Mobile Phones, Tablets, and Components Thereof</i> , Inv. No. 337-TA-1280, Order No. 21

Defendants Google LLC (“Google”) and Oracle Corp. (“Oracle”) respectfully submit this Opening Claim Construction Brief in support of their proposed constructions for the disputed terms in the asserted claims of U.S. Patent No. 8,193,792 (“the ’792 Patent”).

The purpose of claim construction is to determine how persons of ordinary skill in the art (“POSITAs”) would have understood the meaning of particular claim terms at the time of the purported invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc).

Sonrai’s constructions are improper because they ignore the relevant intrinsic and extrinsic evidence, and they disregard Federal Circuit law. Sonrai attempts to take advantage of broad functional claiming, while disregarding a patentee’s corresponding obligation under 35 U.S.C. § 112(6) to disclose adequate corresponding structure in the specification, thereby rendering the ’792 Patent’s asserted apparatus claims indefinite. With respect to other contested terms, Sonrai’s proposals fail to capture the terms’ plain and ordinary meaning in view of the intrinsic record, and instead seeks to read language out of the claims as part of an improper effort to support an overbroad infringement theory.

In contrast with Sonrai’s unsupported proposals, Google and Oracle properly apply binding Federal Circuit precedent to propose constructions that are consistent with the claim language and the other relevant intrinsic and extrinsic evidence. Google and Oracle’s constructions are amply supported in fact and law, and should be adopted.

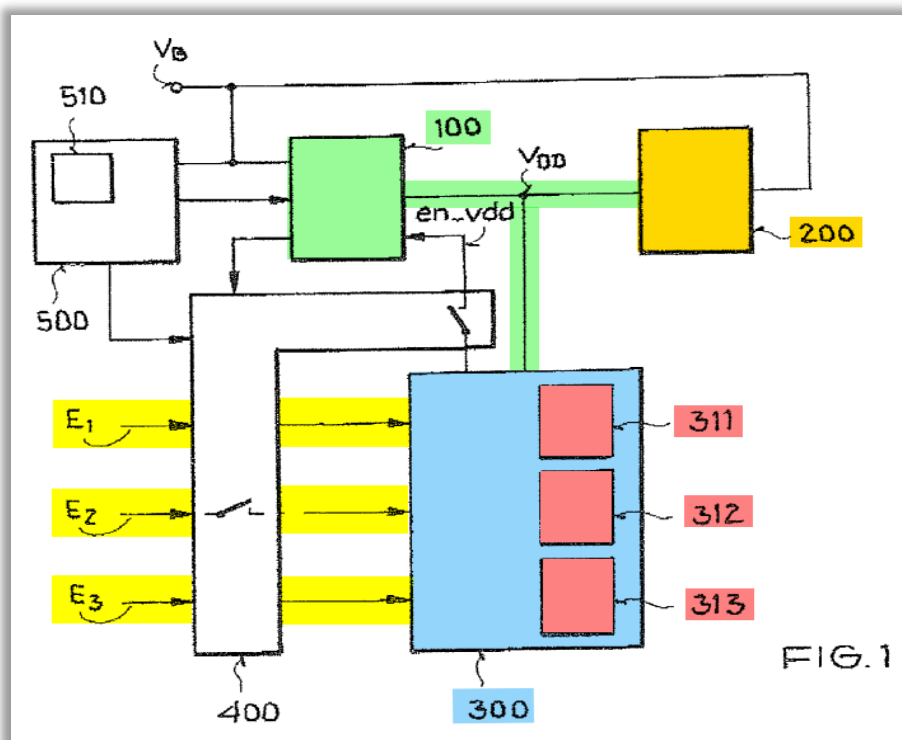
## **I. ’792 PATENT**

### **A. Overview of the Technology**

The ’792 Patent relates to “a circuit and a method for operating a circuit.” Ex. 1, ’792 Patent at 1:13–14. In particular, the patent addresses a circuit architecture where a section of the circuit “can be run in an operating mode” or a “sleep mode.” *Id.* at 1:15–18. While in “operating mode” the circuit section is capable of “information processing,” whereas in “sleep mode” (or

standby mode) the circuit section merely “preserves information,” resulting in “reduced power consumption.” *Id.*

Figure 1 of the '792 Patent's specification depicts the basic architecture contemplated by the patent. A circuit section 300 (shown in blue below) contains memory elements 311–313 (red). A first voltage regulator 100 (green) supplies the circuit section's voltage while in operating mode, and a second voltage regulator 200 (orange) supplies the circuit section's voltage while in sleep mode. The second voltage regulator operates at a lesser current and/or voltage than the first voltage regulator to reduce power consumption while in sleep mode, while “preserv[ing] information stored in the memory elements.” *Id.* at 1:49–42, 2:33–39. “Preferably the standby current is smaller than the operating current by at least a factor of 100.” *Id.* at 2:37–39. Inputs of the circuit section  $E_1$ ,  $E_2$ , and  $E_3$  (yellow) are deactivated while in sleep mode. *Id.* at 1:61–63.



*Id.* at Fig. 1 (highlighting added).

## II. LEVEL OF ORDINARY SKILL IN THE ART

As Dr. Alyssa Apsel explains in her Declaration, a POSITA would have had at least a Bachelor's degree in Electrical Engineering, Computer Engineering, or an equivalent technical degree, and two or more years of experience with integrated circuit design, architecture, or manufacturing. Ex. 2, Apsel Dec. ¶ 37. In all cases, additional education would compensate for less experience, and vice-versa.

## III. ARGUMENT

### A. “deactivation of inputs of the circuit section” (claims 1, 10)

Google and Oracle	Sonrai
deactivation of inputs of the circuit section, where “inputs” does not include a voltage regulator	deactivation of inputs of the circuit section, where “inputs” does not include the supply voltage or standby voltage

The parties' primary dispute regarding the term “deactivation of inputs of the circuit section” is whether the claimed “inputs” are the inputs specified in the intrinsic record (Google and Oracle's position) or whether the claimed “inputs” can selectively include voltage regulators and their corresponding voltages, as long as they are not specifically claimed (Sonrai's position).

Google and Oracle's position on construction of the claimed “inputs” is dictated by the disclaimer made by the applicant regarding the scope of this term in order to obtain issuance of the patent during prosecution. Prosecution history disclaimer prevents a patentee from “recapturing through claim interpretation specific meanings disclaimed during prosecution.” *Traxcell Techs., LLC v. Nokia Sols. & Networks Oy*, 15 F.4th 1136, 1141 (Fed. Cir. 2021). Notably, patentees are held to statements of claim scope made to distinguish the prior art, “even if they said more than needed to overcome a prior art rejection.” *Data Engine Techs. LLC v. Google LLC*, 10 F.4th 1375, 1383 (Fed. Cir. 2021).



Here, in distinguishing the prior art during prosecution, the applicant made clear that deactivating a voltage regulator does **not** satisfy the claim requirement of “deactivation of **inputs** of the circuit section.” During prosecution of the ’792 Patent, the Examiner rejected the pending claims as anticipated by U.S. Pub. No. 2008/0238378 (“*Uan-So-li*”). See Ex. 3, Oct. 13, 2011 Non-Final Rejection, at 3. The Examiner identified Step 320 of *Uan-So-li*, “Deactivate a Voltage Regulator Circuit,” as meeting the “deactivation of inputs” limitation. See *id.*; Ex. 4, *Uan-So-li*, at Fig. 3. In response to that rejection, the applicant canceled the existing claims and introduced new claims. See Ex. 5, Jan. 12, 2012 Applicant Response, at 2–5. New claim 12, for example, recited “a circuit section ... operable to transition from the operating mode to a sleep mode, the transition comprising **deactivation of inputs of the circuit section.**” See *id.* at 2.<sup>1</sup> The applicant then sought to distinguish *Uan-So-li* on the basis that the deactivation of a voltage regulator does not constitute the claimed “deactivation of inputs”:

The Office Action appears to equate the step of “deactivate a voltage regulator circuit (320),” as disclosed in *Uan-So-li* at Fig. 3, with “wherein the circuit is configured to control a deactivation ... of the inputs of the circuit section,” as recited in previously pending Claim 1. **The Office Action appears to characterize the step of “deactivate a voltage regulator circuit (320),” as disclosed in *Uan-So-li* at Fig. 3, as “deactivate inputs (320).”** Office Action at 3 (citing *Uan-So-li* at Fig. 3). **However, this characterization is incorrect as nowhere does the cited portion disclose, teach, or suggest “wherein the circuit is configured to control a deactivation ... of the inputs of the circuit section,” as recited in previously pending Claim 1, let alone “a circuit section ... operable to transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section,” as recited in new Claim 12.**

*See id.* at 8.

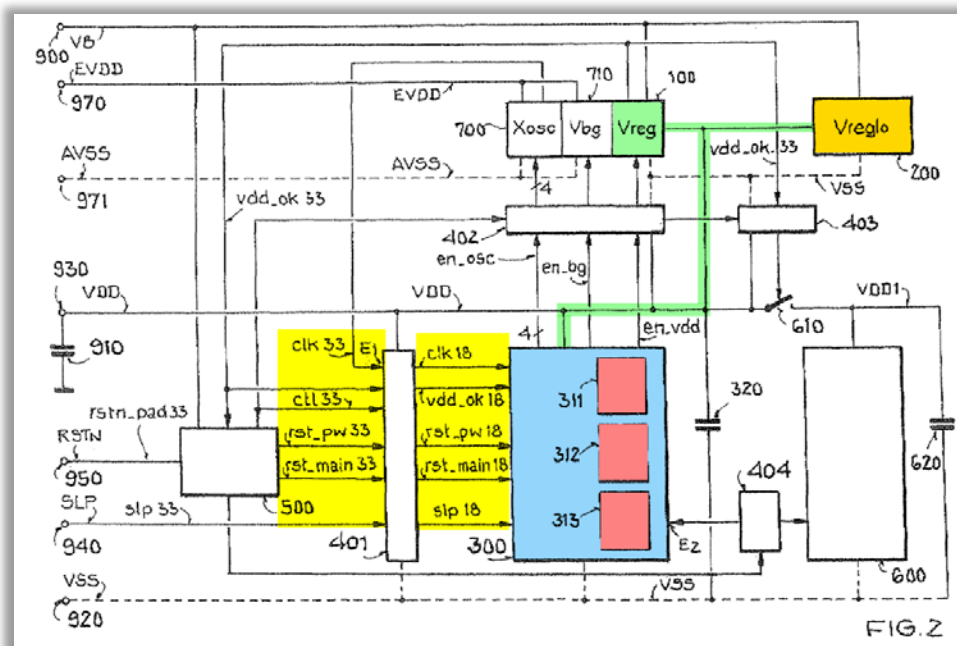
Through these statements, the applicant made a clear and unambiguous distinction over the prior art on the basis that deactivating a voltage regulator in the prior art (voltage regulator circuit

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<sup>1</sup> Unless otherwise indicated, all emphases herein are added.

320) does *not* constitute deactivating the circuit section's *inputs*. Following this distinction, the Examiner allowed the new claims, with no further discussion. In view of the applicant's clear disclaimer, as a matter of black-letter law, the claimed deactivating "inputs" should be construed to exclude deactivating a voltage regulator. See *Traxcell Techs.*, 15 F.4th 1136 at 1141–42 (affirming district court construction reflecting distinctions applicant made over prior art during prosecution).

Further, the distinction that the applicant made during prosecution is consistent with the plain meaning of the term "inputs" and with the '792 Patent's specification. For example, Figure 1 of the '792 Patent (shown on page 2 above) illustrates "inputs" E<sub>1</sub>–E<sub>3</sub> (highlighted in yellow) that are distinct from the supply voltage V<sub>DD</sub> (highlighted in green). See *supra* at 2; Ex. 1, '792 Patent at Fig. 1. As shown below, Figure 2 of the patent likewise depicts "inputs" (highlighted in yellow) as being distinct from the supply voltage (highlighted in green):



Ex. 1, '792 Patent at Fig. 2 (highlighting added). The specification describes these “inputs” that are being deactivated as providing “information” in the form of “bits” or a “clock signal”—not a supply voltage.<sup>2</sup>

Sonrai’s construction partially reflects the applicant’s disclaimer during prosecution, in that it clarifies the claimed “inputs” do not include the claimed “supply voltage” or “standby voltage.” However, aside from the specifically claimed “supply voltage” and “standby voltage,” Sonrai’s construction would improperly capture deactivation of voltage regulator(s) and the voltages they provide. This claim scope is inconsistent with the intrinsic record, which is clear that deactivating “a voltage regulator” does not satisfy the claim requirement of “deactivation of inputs of the circuit section.” The intrinsic record nowhere suggests that the claimed “inputs” can include some voltage regulators and supply voltages to the circuit section, but not others. Accordingly, Sonrai’s construction—which seeks to selectively encompass voltage regulator(s) and their corresponding supply voltages to the circuit section, as long as they are not specifically claimed—should be rejected, as it is inconsistent with the intrinsic record and the express distinction over the prior art on which the applicant relied in order to obtain allowance. *See Data Engine Techs.*, 10 F.4th at 1383 (rejecting construction that failed to give effect to applicant’s express statements during prosecution).

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<sup>2</sup> *See, e.g.*, Ex. 1, '792 Patent at 1:61–67 (“For a sleep mode, inputs of a circuit section of the circuit are deactivated, wherein the circuit section has a number of memory elements. The inputs can be designed and configured for **information** entering the circuit section, such as individual **bits or bit words** transmitted serially or in parallel. **For deactivation**, the input value is preferably switched to a fixed, predetermined **logic** voltage, for example **zero or one**.”), 2:12–15 (“For the operating mode, the inputs of the circuit section are activated after activation of the first voltage regulator, in particular in order to process **information entering through the inputs** of the circuit section.”), 6:55–57 (“the **input E1** for the **clock signal** clk33 is deactivated by the switching function of the block 401”).

**B. “circuit section” (claims 1, 10)**

Google and Oracle	Sonrai
The “circuit section”— <i>i.e.</i> , hardware, not software/firmware—must be operable to perform the claimed functions.	Plain and ordinary meaning

The dispute regarding the “circuit section” limitation concerns whether this term should be given its plain and ordinary meaning as referring to hardware (Google and Oracle’s position) or whether the door should be left open for arguments to stretch this term to encompass software or firmware (Sonrai’s position). The intrinsic record and the term’s plain and ordinary meaning support Google and Oracle’s construction, whereas Sonrai’s position is inconsistent with the specification and improperly seeks to rewrite the plain language of the claims.

As an initial matter, the ALJ has noted in a co-pending litigation involving the ’792 Patent that “clarifying that ‘circuit’ ‘is hardware’” is appropriate because it “reflects a plain and ordinary meaning” of the claim term.<sup>3</sup> This recognized meaning of the term “circuit” is reflected in the ’792 Patent’s claims. For example, claim 1 of the ’792 Patent recites a “circuit” comprising two “voltage regulator[s],” as well as a “circuit section” that comprises a “memory element” and is operable to receive different “voltage[s]” in different modes and to “deactivat[e]... inputs” of the “circuit section.” These claimed features—circuits, voltage regulators, and circuit sections that receive different voltages and deactivate inputs of a circuit section—are all **hardware** features. *Cf. Silicon Graphics, Inc. v. ATI Techs., Inc.*, Case No. 3-06-cv-00611, 2007 WL 5614112, at \*13 (W.D. Wis. Oct. 15, 2007) (construing “circuit” to mean “an interconnection of electrical hardware”). Dependent claims 5 and 14 of the ’792 Patent likewise claim only hardware features,

<sup>3</sup> See Ex. 15, *In the Matter of Certain Laptops, Desktops, Servers, Mobile Phones, Tablets, and Components Thereof*, Inv. No. 337-TA-1280, Order No. 21, at 16.

addressing “an additional circuit section” with “a switch connectable to the additional circuit section and to the second voltage regulator, the switch in a state for the sleep mode configured to separate the additional circuit section from the second voltage regulator.” On their face, these claims are directed solely to hardware, with no indication that the patentee intended to depart from the ordinary meaning of “circuit” to indicate software.

Consistent with the plain claim language, the specification also uses the terms “circuit” and “circuit section” in their ordinary sense as hardware, with no indication that the terms include software. For example, the Abstract describes the “circuit” and “circuit section” in terms of their constituent hardware features and connections:

A *circuit* and method for operating a *circuit* is provided that includes a *circuit section* that has a number of *memory elements*, a *first voltage regulator* that can be *connected* or is connected to the *circuit section* in order to *operate the circuit section*, a *second voltage regulator* that can be *connected* or is connected to the *circuit section* in order to preserve an information item stored in the memory elements ....

Ex. 1, '792 Patent at Abstract. The first paragraph of the Summary of the Invention similarly addresses the “circuit” in terms of its disposition as a hardware unit: “It is therefore an object of the present invention to *improve a circuit* to the greatest extent possible. Accordingly, *a circuit is provided* that can be *monolithically integrated* on a *semiconductor chip*.” *Id.* at 1:28–31.<sup>4</sup> Nowhere does the specification suggest that the claimed circuits are anything but physical circuits located on a physical chip—let alone does it ever suggest they can be software. Because a “circuit” is hardware, and nothing in the specification invites any departure from that ordinary meaning,

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<sup>4</sup> See also, e.g., Ex. 1, '792 Patent at 1:13–14 (“The present invention relates to a circuit and a method for operating a circuit.”), 1:32–34 (“The circuit has a circuit section having a number of memory elements that are, in particular, volatile, such as registers, latches, or flip-flops, for example.”), 3:66–67 (“In FIG. 1, a circuit is schematically represented by a block diagram.”), 5:24–25 (“In FIG. 2, another example embodiment is shown schematically as a block diagram of a circuit.”).

Google and Oracle’s proposed construction is correct. *See Mass. Institute of Tech. and Elecs. for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1356–57 (Fed. Cir. 2006) (concluding term “aesthetic correction circuitry” is “clearly limited to hardware” and nothing in specification “require[s] that ‘circuit’ be interpreted to include software”).

Extrinsic evidence further confirms that the claimed “circuit” means hardware, not software. Contemporaneous dictionaries consistently define a “circuit” as a combination of physical hardware components. *See, e.g.*, Ex. 7 [*Oxford Dict. of Comput.* (2008)] at 78 (defining “circuit” as “[t]he combination of a number of electrical devices and conductors that, when interconnected to form a conducting path, fulfill some desired function”); Ex. 8 [*Dict. of Comput. Sci., Eng’g & Tech.* (2001)] at 75 (“a network of input, output, and logic gates ... its hardware is static and fixed”); Ex. 9 [*Chambers Dict. of Sci. and Tech.* (2007)] at 224 (“An assembly of electronic (or other) components having some specific function, eg amplifier, oscillator or gate.”); Ex. 10 [*Random House Concise Dict. of Sci. & Computers* (2004)] at 130 (“an arrangement of electronic components connected by a conducting material through which current can flow”).<sup>5</sup>

Sonrai’s position is incorrect because it improperly stretches the term “circuit” to encompass software, thereby impermissibly reading the word “circuit” out of the claims. This choice of claim language that is directed to hardware should be given effect, and should not be

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<sup>5</sup> *See also* Ex. 11 [*Modern Dict. of Elecs.* (1999)] at 116 (“The interconnection of a number of devices in one or more closed paths to perform a desired electrical or electronic function.”); Ex. 12 [*McGraw-Hill Elecs. Dict.* (1997)] at 72 (“An interconnected group of active anti passive electrical and electronic components that accomplishes a desired function such as switching, amplification, filtering, or data conversion.”); Ex. 13 [*Authoritative Dict. of IEEE Stds. Terms* (2000)] at 168 (“[a]n arrangement of interconnected electronic components that can perform specific functions upon application of proper voltages and signals); Ex. 14 [*Webster’s II New Coll. Dict.* (2001)] at 203 (“*Elect.* a. A closed path followed or capable of being followed by an electrical current. b. A configuration of electrically or electromagnetically connected devices or components.”).

rendered meaningless. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950–52 (Fed. Cir. 2006)

(“claim language should not be treated as meaningless”).

- C. “a circuit section ... operable to: receive a supply voltage from the first voltage regulator when in an operating mode; transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section; and receive a standby voltage from the second voltage regulator when in the sleep mode ...” (claim 1)<sup>6</sup>

Google	Sonrai
<p>This term is subject to § 112(6).</p> <p><b><u>Function:</u></b> receive a supply voltage from the first voltage regulator when in an operating mode; transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section; and receive a standby voltage from the second voltage regulator when in the sleep mode, the standby voltage being less than the supply voltage and sufficient to preserve an information item stored in the memory element</p> <p><b><u>Structure:</u></b> Indefinite</p>	<p>No construction necessary. Not subject to § 112(6).</p> <p>Alternative proposal, if the term is subject to § 112(6):</p> <p><b><u>Function:</u></b> receive a supply voltage from the first voltage regulator when in an operating mode; transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section; and receive a standby voltage from the second voltage regulator when in the sleep mode, the standby voltage being less than the supply voltage and sufficient to preserve an information item stored in the memory element</p> <p><b><u>Structure:</u></b> circuit section 300, and equivalents thereof</p> <p>Sonrai additionally reserves the right to rely on “circuit section 300 and switching device 400, and equivalents thereof,” as well as “circuit section 300 and block 401 and/or block 404, and equivalents thereof,” as corresponding structure in opposing Google’s allegations of invalidity.</p>

<sup>6</sup> The argument regarding this claim limitation is submitted by Google. Oracle did not identify this term for construction and takes no position regarding claim construction for this term.

When Congress enacted 35 U.S.C. § 112(6), it struck a balance. Congress allowed patentees to draft claim limitations that recite a function to be performed without reciting any specific structure for performing that function. In exchange, Congress “plac[ed] specific constraints on how such a limitation is to be construed,” requiring that courts interpret functional claim limitations to “restrict[] the scope of coverage to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (en banc).

Here, the patentee engaged in functional claiming—as previously determined in a co-pending ITC Investigation involving the ’792 Patent. *See* Ex. 15, *In the Matter of Certain Laptops, Desktops, Servers, Mobile Phones, Tablets, and Components Thereof*, Inv. No. 337-TA-1280, Order No. 21 (“ITC Claim Construction”), at 35–36. Claim 1 of the ’792 Patent recites a “circuit section ... operable to” perform certain functions, including “receiv[ing]” different voltages when in different modes, “transition[ing]” from an operating mode to a sleep mode, and “deactivat[ing]” the circuit section’s inputs. As explained below, because the claim does not recite any specific structure of the circuit section that performs these functions, § 112(6) governs.

When a claim limitation is subject to § 112(6), it must be determined “what structure, if any, disclosed in the specification corresponds to the claimed function.” *Williamson*, 792 F.3d at 1351. A disclosed structure qualifies as the “corresponding structure” for a functional limitation if the intrinsic evidence “clearly links” the structure to the function recited in the claim **and** the structure is “adequate” to achieve that function. *Id.* at 1352. As explained below, the ’792 Patent’s specification merely discloses a generic “circuit section 300,” but does not disclose structure that is adequate for the circuit section to perform the claimed functions, including transitioning from an operating mode to a sleep mode while deactivating its inputs. The patentee therefore failed to



meet its end of the bargain set by Congress. Because the patentee sought to benefit from broad, functional claiming, without satisfying its statutory obligation to disclose specific structure adequate to perform those functions, the '792 Patent's asserted apparatus claims are indefinite.

**a. 35 U.S.C. § 112(6) Governs The “Circuit Section” Term.**

As the Federal Circuit has emphasized, “the essential inquiry” for determining whether a claim includes a functional limitation that is subject to § 112(6)—which is often called a “means-plus-function” limitation—“is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson*, 792 F.3d at 1348. Notably, so-called “nonce” words—such as “module” and “device”—often substitute for and do the work of the word “means,” as they “reflect nothing more than verbal constructs” that “typically do not connote sufficiently definite structure.” *Id.* at 1350.

Here, the term “circuit section” does not specify or indicate any particular structure to carry out the claimed functions. The parties agree that the claimed function includes, for example, “transition[ing] from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section.” Transitioning to a sleep mode while deactivating inputs is a complex functionality that embodies the core of what the applicant contended was novel about its invention. *See* Ex. 2, Apsel Dec. ¶¶ 41–45.<sup>7</sup> Such functionality is well beyond the capabilities of a generic “circuit section.” *See id.* ¶ 41.

Notably, this term was found to be subject to § 112(6) in the co-pending ITC investigation involving the '792 Patent, under reasoning that is equally applicable here. *See* Ex. 15, ITC Claim Construction at 35–36. The ALJ initially found that the plain meaning of “circuit section” is “a

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<sup>7</sup> The declaration of Dr. Apsel (Exhibit 2) is attached only to Google's submission of this brief.

collection of conductive elements which control electricity for useful purposes.” *Id.* at 35. The ALJ then reasoned that “[d]eactivation’ requires more than simply being conductive, and ‘transitioning’ from one mode to another could be an even more nuanced task.” *Id.* at 36. Because “deactivation” and “transition[ing]” were “beyond the capabilities of any generic ‘circuit section,’” the ALJ concluded that § 112(6) applies. *Id.*

Further, as discussed above, under Sonrai’s own proposed construction, the claimed “circuit section” could be *any* hardware or software that performs the recited function. As the Federal Circuit has made clear, a generic description of software or hardware that performs a function merely operates as a substitute for the term “means,” and is therefore subject to § 112(6). *See Williamson*, 792 F.3d at 1350 (holding nonce term “module” operates as substitute for “means” because “‘module’ is simply a generic description for *software or hardware that performs a specified function*”). Accordingly, to the extent the term “circuit section” simply refers to some hardware or software that performs the claimed functions, as Sonrai proposes, this term is subject to § 112(6) under a straightforward application of Federal Circuit precedent. *See id.* at 1350–51; *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1374–75 (Fed. Cir. 2020) (holding term “software, firmware, circuitry, or [a] combination thereof” is “no more than a ‘black box recitation of structure’ that is simply a generic substitute for ‘means’”).

Under Google’s proposal that the term “circuit section” is limited to hardware (*see supra* at 7-9), the term “circuit section” is still subject to § 112(6) because it does not recite sufficient structure for performing the claimed function, as discussed below. *See Egenera*, 972 F.3d at 1374–75 (“The question is not whether a claim term recites any structure but whether it recites *sufficient* structure ... *for performing that function.*”) (citing *Williamson*, 792 F.3d at 1348). Because the only structure recited by the claims—a “circuit section”—is facially insufficient to perform the

claimed functions, § 112(6) must apply. *See Egenera*, 972 F.3d at 1374–75 (holding “logic” term encompassing generic “circuitry” is “no more than a ‘black box recitation of structure’ that is simply a generic substitute for ‘means’”).

Several previous judicial decisions, including from the Federal Circuit, have concluded that claims based on the term “circuit” were subject to § 112(6). In *Intelligent Automation Design, LLC v. Zimmer Biomet CMF & Thoracic, LLC*, for example, the Federal Circuit held that the term “control circuit for determining a time when the torque reaches a maximum” is subject to § 112(6) because the recited “control circuit” does not “provide enough description of the structure to render the limitation structural, rather than functional.” 799 F. App’x 847, 851 (Fed. Cir. 2020). Similarly, in *Limestone Memory Sys. LLC v. Micron Tech., Inc.*, a district court held that the term “activation control circuit” was subject to § 112(6) because the generic term “circuit” encompassed “an infinite number of different logic gate combinations” and “[t]he claim language reciting the functions ... says nothing about the structure of the circuit.” No. 815CV00278DOCKESX, 2019 WL 6655273, at \*18–19 (C.D. Cal. Sept. 11, 2019). Likewise, in *Koninklijke Philips N.V. v. ZOLL Lifecor Corp.*, the court held that an “electrical circuit” limitation was subject to § 112(6) because “[t]he term ‘circuit’ ... is plainly being used in the generic sense of the term” and no “appropriate modifiers or other claim language ... connote a sufficiently definite type of circuit.” No. 2:12-CV-1369, 2015 WL 12781199, at \*14 (W.D. Pa. Aug. 28, 2015).<sup>8</sup>

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<sup>8</sup> *See also, e.g., IP Innovation LLC v. Mitsubishi Elec. Corp.*, No. 08 C 393, 2009 WL 3617505, at \*9 (N.D. Ill. Oct. 29, 2009) (finding terms “fill calculator circuit” and “neighboring element circuit” were subject to § 112(6) because “neither the [term] nor the language after the claim term describes sufficiently definite structure”); *Nilssen v. Motorola, Inc.*, 80 F. Supp. 2d 921, 934 (N.D. Ill. 2000) (finding term “power conditioning circuit” was subject to § 112(6) because term and subsequent language were insufficient to perform recited function).

The reasoning from those cases applies with equal force here, where the generic term “circuit section” encompasses an unspecified range of hardware implementations, with no element present in the claim language to define its structural scope. *See* Ex. 2, Apsel Dec. ¶¶ 41–45. The term includes no prefix or modifier that could limit the claimed “circuit section” to a particular class of circuit structures. Nor does the subsequent functional claim language impart any structure. For example, “transition[ing] from the operating mode to a sleep mode” while “deactivat[ing] inputs of the circuit section” is purely functional language that could be implemented in any number of ways, and does not connote any known class of circuitry structures. *See id.* ¶ 42. Indeed, Sonrai can hardly contend that this functionality connotes a *known* class of structures, when it is precisely this functionality that the patentee relied on as the invention’s purportedly novel aspect to avoid prior art during prosecution. *See* Ex. 5, Jan. 12, 2012 Applicant Response at 2.

**b. The ’792 Patent Fails To Disclose Sufficient Structure For The “Circuit Section” Term, Rendering The Term Indefinite.**

The ’792 Patent’s specification does not disclose a corresponding structure that is “clearly link[ed]” to the function recited in the claim and “adequate” to achieve that function.<sup>9</sup> *Williamson*, 792 F.3d at 1352. “If the patentee fails to disclose adequate corresponding structure, the claim is indefinite.” *Id.* Here, the “circuit section” term is indefinite because the specification fails to meet the requirements for identifying adequate corresponding structure.

As explained above, the claimed functions include “transition[ing] from the operating mode to a sleep mode,” where the transition comprises “deactivation of inputs of the circuit section”—complex functionality that is beyond the capabilities of a generic circuit or processing

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<sup>9</sup> Sonrai does not dispute that, to the extent this term is subject to § 112(6), the functional claim language following “circuit section ... operable to” should be adopted as the relevant function.

module. *See* Ex. 2, Apsel Dec. ¶¶ 41–42; *see also* *See* Ex. 15, ITC Claim Construction at 36 (“‘[d]eactivation’ requires more than simply being conductive, and ‘transitioning’ from one mode to another could be an even more nuanced task”). However, the specification describes the “circuit section” only in generic functional terms, without describing its internal structure—let alone any structure that is adequate to perform the complex transitioning and deactivation steps recited in the claimed functions.

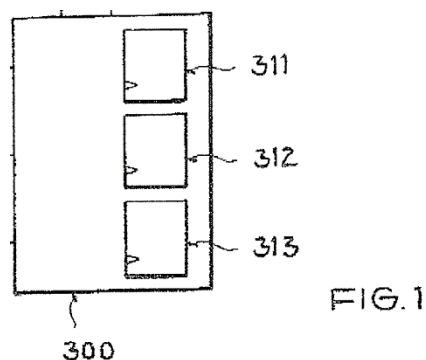
For example, the specification refers to “circuit section 300” simply as comprising generic circuitry or means for performing certain functions. *See id.* at 6:42–44, 4:27–31 (“the circuit has *means* that initiate a sleep mode [such as] circuit section 100 [sic]”), 1:54–57 (“In advantageous fashion, the *circuit section* is designed and configured for *control*. Alternatively or in combination, the circuit has additional *control means* for *control*.”) (emphases added). As the Federal Circuit has held, identifying the alleged structure as “any circuit that performs the claim function” is “no more specific than defining” the means “in purely functional terms,” and is “prohibited.” *Tomita Techs. USA, LLC v. Nintendo Co.*, 594 F. App’x 657, 662 (Fed. Cir. 2014); *see also Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009) (“By failing to describe [specific structure to perform a function], Blackboard has attempted to capture any possible means for achieving that end. Section 112, paragraph 6, is intended to prevent such pure functional claiming.”).

The specification’s reference to generic digital circuitry—*i.e.*, “gates, etc.”—in connection with “circuit section 300” does not alter that conclusion. A simple, generic transistor gate (*i.e.*, a switch) is not adequate for achieving the complex functionality of “transition[ing] from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section.” As Google’s expert has explained:

Gates open and close. They do not have a concept of “sleep mode,” of transitioning from operating to sleep mode, of deactivating inputs to their own section of circuitry while doing so, or of receiving different relative voltage levels from different voltage regulators depending on their mode. Such functionality would require a specific arrangement of gates interconnected in a particular manner. No such arrangement is disclosed or even hinted at in the specification.

Ex. 2, Apsel Dec., ¶ 47. Indeed, not only does the specification fail to disclose any structure associated with “circuit section 300” that could carry out the claimed functions—it discloses no structural arrangement for “circuit section 300” at all. To conclude that “gates,” which are a generic building block of any digital circuit, are adequate corresponding structure would be to let the patentee effectively claim any piece of circuitry for performing the claimed functions. Such broad functional claiming, untethered to any specific structure, is exactly what § 112(6) prohibits. *See Blackboard*, 574 F.3d at 1385.

The specification’s figures further underscore the failure to disclose adequate corresponding structure for the “circuit section” functions. The “circuit section 300” is illustrated in the patent figures as little more than a black box (containing memory elements labeled 311-313):



Ex. 1, '792 Patent, Fig. 1 (excerpted); Ex. 2, Apsel Dec. ¶ 49. Indeed, while the figures provide some details regarding other circuitry *surrounding* the “circuit section 300” that perform other

functions, *see* Ex. 1, '792 Patent at Figs. 1–2, as well as the internal circuitry within some of that surrounding circuitry, there is no such detail provided regarding the claimed “circuit section 300.”

Moreover, to the extent that Sonrai alleges the “circuit section 300” can be satisfied by generic computing hardware running software, then the specification must disclose a corresponding algorithm. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005) (“A computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm.”). Here, however, there is no algorithm at all disclosed in the specification. *See Aristocrat Techs. Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1337–38 (Fed. Cir. 2008) (holding claim term indefinite under § 112(6) because “there was no algorithm at all disclosed in the specification”).

With respect to the “deactivation of inputs of the circuit section” function specifically, the specification’s failure to disclose corresponding structure is a consequence of choices made by the patentee during prosecution. In order to overcome a prior art rejection during prosecution, the applicant was forced to add the claimed function at issue—but, in doing so, stepped outside of the support provided by the specification. The originally submitted claim 1 recited that the separate “switching device” deactivated the circuit section’s inputs, claiming “a switching device connectable to the circuit section and configured to deactivate and activate inputs of the circuit section.” Ex. 6, June 9, 2009 Application at 15. However, the Examiner rejected original claim 1 (among other claims) as being anticipated by certain prior art references, including *Uan-So-li*. *See* Ex. 3, Oct. 13, 2011 Non-Final Rejection at 2–3. In response, the applicant submitted new claim 12 (eventually issued as claim 1), which recited that the *circuit section* is operable to “transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the

circuit section.” Ex. 5, Jan. 12, 2012 Applicant Response at 2. The applicant then used that specific limitation to distinguish the prior art on the grounds that it failed to disclose the newly-added requirement that the circuit section itself must deactivate its inputs:

The Office Action appears to characterize the step of “deactivate a voltage regulator circuit (320),” as disclosed in *Uan-So-li* at Fig. 3, as “deactivate inputs (320).” *Office Action* at 3 (citing *Uan-So-li* at Fig. 3). However, this characterization is incorrect as nowhere does the cited portion disclose, teach, or suggest “wherein the circuit is configured to control a deactivation . . . of the inputs of the circuit section,” as recited in previously pending Claim 1, ***let alone “a circuit section . . . operable to transition from the operating mode to a sleep mode, the transition comprising deactivation of inputs of the circuit section,” as recited in new Claim 12.***

*Id.* at 8 (emphasis added). However, this newly-added claim limitation lacked a disclosure of corresponding structure in the ’792 Patent’s own specification.

As alleged corresponding structure, Sonrai identifies “circuit section 300, and equivalents thereof.” As discussed above, however, the specification does not disclose ***any*** specific structure for “circuit section 300.” Given this complete absence of specific structure disclosed for “circuit section 300,” there cannot be ***adequate*** structure disclosed for achieving the complex claimed “transition” and “deactivation” functions. Perhaps recognizing this issue, Sonrai further reserves the right to rely on switching device blocks 400, 401, and/or 404 to supplement its identification of alleged corresponding structure. This attempt to incorporate additional structure does not render the claims definite.

As an initial matter, a POSITA would not consider “switching device” blocks to be corresponding structure for the claimed “circuit section.” *See* Ex. 2, Apsel Dec., ¶ 52. Indeed, the specification consistently differentiates between the “circuit section 300” component—*i.e.*, the circuitry that transitions from operating to sleep mode, while receiving voltage from different voltage regulators—from the distinct “switching device” components. *See, e.g.*, ’792 Patent at Figs. 1–2, 1:43–48 (“The circuit can have a switching device that is connected to the circuit section.



The switching device is designed to deactivate and activate inputs of the circuit section. For the purpose of deactivation and activation, the switching device is advantageously connected ahead of the inputs of the circuit section.”). A POSITA would not interpret the claims such that the “circuit section” encompasses the entirely distinct “switching device” blocks.

Moreover, even if the disclosed “switching device” blocks could be considered corresponding structure for the claimed “circuit section,” they do not supply adequate structure to achieve the claimed functions. At most, the disclosed switching blocks provide switches that disconnect inputs from “circuit section 300” in response to a signal from the first voltage regulator. *See* Ex. 1, ’792 Patent, at 5:17–23, 5:40–46, 5:55–57, 6:21–22, 6:44–59. That operation does not address the recited function of the claimed “circuit section” “transition[ing] . . . to a sleep mode.” Notably, the only component disclosed in the specification that transitions from the operating mode to a sleep mode is “circuit section 300.” *See, e.g.*, Ex. 1, ’792 Patent, at 2:27–32. It therefore follows that “circuit section 300” itself must possess specific structure to implement that transition. *See* Ex. 2, Apsel Dec. ¶¶ 46–50. Indeed, some specific structure is necessary for “circuit section 300” even to *have* a distinct “sleep mode”—as discussed above, generic digital circuitry is insufficient. *Id.* ¶ 47. Again, however, the specification does not disclose any such specific structure.

Ultimately, the patentee claimed a functional “circuit section” operable to “transition from the operating mode to a sleep mode,” yet disclosed no structure for the “circuit section 300” to actually perform that transition. Because the specification fails to disclose adequate structure for implementing circuit section 300’s transition from operating mode to sleep mode—and because adding external “switching device” blocks does not remedy that deficiency—the “circuit section” limitation is indefinite.

#### IV. Conclusion

For the reasons discussed above, Google and Oracle respectfully submit that their proposed constructions should be adopted.

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**CERTIFICATE OF SERVICE**

I hereby certify that all counsel of record are being served with a copy of the foregoing document via the Court's CM/ECF system on April 13, 2022.

/s/ J. Stephen Ravel  
J. Stephen Ravel